

2370

Diag. Ch. Nos. 9302 & 9370

U. S. COAST AND GEODETIC SURVEY.

Henry S. Pritchett, Superintendent.

State: *Alaska*

DESCRIPTIVE REPORT.

Hydrographic Sheet No. 2370

LOCALITY:

*Kusilovek Bar, Yukon
River*

1898.

CHIEF OF PARTY:

J. F. Pratt, Asst

2370

FEB. 17. 1899. 02527

U. S. Coast and Geodetic Survey,
Dr. Henry S. Pritchett, Superintendent.

Hydrography
of the
Kusilvak Bar,
Yukon River, Alaska.

by the
Party in charge of J. F. Pratt, Assistant.

Begun, Aug. 26, 1898.

Ended, Sept. 9, 1898.

Scale, 1/20 000

Two pages of title and 6 pages.

Page one of title.

Kusilyak Bar Sheet, Descriptive Report.

Sounding and Tidal Data.

The Tides used in reducing the Soundings, are those observed at Nioklakowik and Kripniyuk Tidal Stations.

Adopted Low water at Kripniyuk is 1.21 feet.

" " " " Kwiklochun is 2.33 "

Zero of Kwiklochun below zero of Kripniyuk is 0.23 feet

" " " " above " " Nioklakowik is 0.34

Adopted Low Water at Kripniyuk----- 1.21 feet

Kwiklochun reduced to Kripniyuk staff = $2.33 - 0.23 = 2.10$

Mean, or Adopted Datum Plane for Kripniyuk - 1.33

Reading of adopted plane on Kwiklochun Staff = $1.66 + 0.23 = 1.89$

Reading of adopted plane on Nioklakowik Staff = $1.89 + 0.34 = 2.73$

The highest tide observed, was 7.3 feet on Sept. 2'd

The lowest tide observed, was 2.9 feet on Aug. 26'th

The mean rise and fall for seven days, was 2.17 feet (maximum rise 3.7 feet, minimum 1.5 feet, in any one day.)

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Two pages of title and 6 pages.

Comparisons of High and Low Water Slack from Awiklochun Self Registering Gauge to Tide Staff at Nioklakowik.

Date	H.W.	H.W.	L.W.	L.W.	L.W.	Wind at Niok.		
	Awik.	Niok.	Awik.	Niok.	Niok.	Force	Dirac.	
Aug. 26	---	---	---	2.2	2.9	-0.7	Calm	
" 27	---	---	---	2.4	3.0	-0.6	Lt.	S.E.
" 29	3.6	4.8	-1.2	2.6	3.1	-0.5	Fresh	S.
" 30	3.2	4.4	-1.2	2.6	3.2	-0.6	Strong	S.S.W.
" 31	4.3	5.6	-1.3	2.4	2.9	-0.5	Mod.	W.
Sep. 1	4.0	5.4	-1.4	2.5	3.1	-0.6	Mod.	E.
" 2	5.9	7.3	-1.4	3.0	3.6	-0.6	Squally	E.
" 7	---	5.1	---	2.9	3.5	-0.6	Lt.S	S
" 8	3.3	4.3	-1.0	2.9	3.6	-0.7	Lt.	S.W.
" 9	3.1	4.0	-0.9	2.8	3.3	-0.5	Lt.	S.W.
Sums			-8.4			-5.9		
			Mean	-0.84				

Zero of Awiklochun gauge above zero of Nioklakowik gauge 0.84

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Statistics of Hydrography, Kusilvak Bar Sheet.

Date	letter	number of			miles statute	vessel,
		vol	angles & positions			
1398.	yellow					
Sep. 3	C	13	44	777	20,	Str. Yukon
" 6	E	14	36	1019	25,5	" "
" 9	F	14	93	934	26,	" "
Total	3		173	2730	71,5	
	brown					
Aug. 26	G	11&12	20	740	20	Str. Taku.
Sep. 7	H	12	22	706	16	" "
Total	2		29	1446	36	" "
	red					
Sep. 8	e	15	23	366	2	Whaleboat No. 3
			<u>Recapitulation,</u>			
Str. Yukon	3		173	2730	71,5	
" Taku	2		29	450	36,	
W.B.No. 3	1		23	366	2.	
Total	6		225	5546	81,5	

For more descriptive matter pertaining to this locality reference may be made to the descriptive report of the Kusilvak Entrance Sheet.

Main or Acharon Channel.

The main channel (to which the Eskimos give the name Acharon), to the outer edge of the bar, continues nearly parallel to the coast and at a distance of about two miles until it rounds the bar ~~to~~ ^{at} "Sand" signal, nearly opposite the Eskimo Village of Kogimiut. From here it begins to diverge somewhat from the coast, trending in nearly a southwest direction. At a distance of about five miles beyond "Sand" and about four miles directly off the coast, the sea swell is first noticed, indicating the approach to the outer edge of the bar. The channel is comparatively narrow and crooked, but can generally be followed in windy weather, by the streaked appearance of the water. On the ~~the~~ outer bars breakers are seen, when looking seaward, on all sides even in moderate weather, but from the sea they are scarcely apparent. Nearer in, at low tide, dry bars are seen ^{covering} large areas, especially in the vicinity of Sand and Bare signals. It is more than probable that during protracted N.E. blows very extensive areas in this region become bare.

From "Town" signal S.W. to the mouth of the Kripniyuk River, a great shoal extends along the coast, nearly two miles wide off Kogimiut village and four to five miles wide just north

of the Kripniyuk Entrance. The natives go along this coast, over this shoal, at high tide, in their umiaks or large skin boats.

Pockets.

There are pockets, gradually shoaling, extending northeast and northwest from Sand signal. The Taku and Yukon were both taken into these by the so called, Eskimo Pilots, but no through channels could be found. During the first portion of the ebb tide, quite a large volume of water flows off to the northwestward between Sand and Luck signals.

Landfall.

At the outer edge of the bar the low lands of the coast are entirely invisible and no landmarks are in sight except distant Kusilvak Mt. and Cape Dyer Mt's. and only then in clear weather. On September 7th 1898, the Acharon Channel was entered from the outside, by the "Taku", although drawing but four feet and having two intelligent Eskimo pilots on board the Taku grounded twice between the outer edge of the bar and Sand signal.

Shore Line.

The shoreline shown on this sheet is taken from that on the Kusilvak and Kripniyuk sheets. Between Meadow and End triangulation stations, eight and one half miles was not surveyed, but is roughly outlined here from the general appearance

and statements of the natives; the latter say that there ~~two~~ two small streams entering the sea ~~entering the sea~~ in this stretch N.E. of Sand signal the shore appears to be slightly higher and firmer ground than the swampy region north of the Kripniyuk.

Control.

The connection between the Kussilvak and Kripniyuk triangulations depends on a few approximate angles measured at "Sand" and "Last" triangulation stations. It is thought best, however, to use this than to take the astronomical determination at Kripniyuk independently.

Plotting.

The positions for soundings on C and E days are mostly from angles measured from the shore stations "Last" and "Mut", the intersections are rather small and there was some difference in time which had to be allowed for. Some of the angles on F day about 78, 83, 84, etc., are so near on a circle as to give somewhat doubtful positions. Some of the positions are marked on the sheet by the hour and minute.

Natives.

As far as known there is no native settlement between Kogomiut and the Kripniyuk River.

Currents.

On account of the extensive area within the limits of

tidal influence, flats and river combined, the tidal prism of the inner portion of this sheet, the Kusilvak Entrance Sheet, which is just above it and the Kusilvak to the head of the Delta, is very large, consequently the currents in the main channel-way and across the deeper portions of the flats are at the proper stage of the tide very strong.

Two current observations were made in the outer channel; August 30, 1898, 4 46 P.M. in Acharon Channel due west, true, from Goose signal 1.34 knots per hour, direction W. magnetic.

September 5th. 1898, 11 15 A.M. in Acharon Channel 400 metres south of Sand signal, position "10 C"., 2.8 knots per hour, direction S.S.W.



Ass't. Chief of Party.